



Arizona Pollutant Discharge Elimination System FORM 2A INSTRUCTIONS

FOR POTWS AND DOMESTIC WASTEWATER TREATMENT WORKS

Background Information

Each wastewater treatment works that discharges treated effluent to waters of the United States in Arizona must apply for an AZPDES permit for its discharges. This permitting requirement is part of the Arizona Pollutant Discharge Elimination System (AZPDES) program, which is implemented by the Arizona Department of Environmental Quality (ADEQ). You can obtain a permit for your treatment works by filling out and sending in the appropriate form(s) to ADEQ. There is currently no fee for applying for an AZPDES permit.

The instructions explain how to fill out each question in Form 2A. However, not every applicant will have to fill out every section of Form 2A. You may determine which parts of Form 2A apply to your treatment works by reading the Application Overview section on page 1 of Form 2A before filling out the form. All applicants submitting Form 2A must also submit a completed AZPDES Form 2S.

Please also note that per 40 CFR 130.12, before an AZPDES permit can be issued for a facility, it must not be in conflict with the Regional 208 Water Quality Management Plan. Owners of new or modified facilities need to check with their planning council to determine if the discharge will be consistent or obtain appropriate plan amendments. ADEQ can not find the application administratively complete until an appropriate 208 finding has been made.

Commonly Asked Questions

What If I Need More Space for My Answer?

If you need more room than is provided on the form or need to provide additional explanation for any part of the application, attach a separate sheet called "Additional Information." At the top of the separate sheet, put the name of your plant, your plant's AZPDES (or NPDES) permit number and the number of the outfall that you are writing about, if applicable. Also next to your response, put the question number (from Form 2A). Provide this information on any drawings or other papers that you attach to your application as well.

Will the Public Be Able To See the Information I Submit?

Any information you submit on Form 2A will be available to the public. If you send in more information than is required on Form 2A that is considered company-privileged information, you may ask ADEQ to keep that extra information confidential. Note that you cannot ask ADEQ to keep effluent data confidential. If you want any of the extra information to be kept confidential, inform ADEQ of this when you submit your application. Otherwise, ADEQ may make the information public without letting you know in advance. For more information on claims of confidentiality, see Arizona Revised Statute (A.R.S.) § 49-205.

How Do I Complete the Form?

Answer every question on Form 2A. If your answer to a question requires more room than there is on the form, please attach additional sheets as described above. If a particular question does not apply to your

treatment works, write "N/A" (meaning "not applicable") as your answer to that question. If you need additional guidance on filling out these forms, contact ADEQ at 602-771-4633 or 1-800-234-5677 ext. 4633.

Which Parts of the Form Apply?

Form 2A consists of two parts: Basic Application Information and Supplemental Application Information. The Basic Application Information packet is divided into three parts. All applicants must complete Part A (Basic Application Information For All Applicants) and Part C (Certification). Applicants with a design flow greater than or equal to 0.1 million gallons per day (mgd) must also complete Part B (Additional Application Information For Applicants With A Design Flow Greater Than or Equal To 0.1 MGD). Some applicants must also complete the Supplemental Application Information Parts D through G. Refer to the Application Overview on page 1 of Form 2A to determine which parts of the Supplemental Application Information you must complete.

Where to File?

Send two copies of the completed forms and accompanying information to:

Surface Water Permits Unit
Water Permits Section
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

Step-by-Step Instructions

The following section provides clarification and additional information for the questions on Form 2A. Most of the terms used in Form 2A are defined in the Arizona Administrative Code (A.A.C.) R18-9-A901.

Part A. Basic Application Information for All Applicants

A.1. Facility (Plant) Information

Provide your wastewater treatment plant's official or legal name. Do not use a nickname or short name. Also provide your plant's mailing address and physical address (if other than the mailing address). The facility location should be a street address (not a Post Office box number) or other description of the actual location of the facility. Be sure to provide the city or county and state in which the facility is located.

A.2. Facility (Plant) Owner/Operator Information

Provide the owner's name, address and a contact person for the owner with title and telephone number. Also, if the operator is different than the owner, provide the operator's name, address and a contact person for the operator with title and telephone number. The contact person should be someone who has a thorough understanding of the operation of the treatment works. ADEQ may call this person if there are any questions about the application.

A.3. Person/Entity Preparing Application

If someone other than the facility owner/operator or their contact person is actually preparing this application (e.g., a consultant), provide the name and mailing address of that person's organization. Also provide the name of a contact person, his/her work title and his/her work telephone number. ADEQ may call this person if there are any questions about the application.

A.4. Existing Environmental Permits

Provide the permit number of each currently effective permit issued to the treatment works for AZPDES (or NPDES) , UIC, RCRA, PSD, APP, Reuse and any other environmental programs. If you have previously filed an application but have not yet received a permit, give the number of the application, if any. If you have more than one currently effective permit under a particular permit program, list each such permit number. List any other relevant environmental permits under "Other."

A.5. Collection System Information

Provide the names of all the cities, towns and unincorporated areas served by your plant and enter the number of people served by your plant at the time you complete this form. Indicate the type and percentage of each portion of the collection system (separate or combined storm and sanitary) if known and note the ownership status of each portion of the system (municipal, private, etc.).

A.6. Indian Country

Indian Country means all land within the limits of any Indian reservation under the jurisdiction of the United States Government notwithstanding the issuance of any patent and including rights-of-way running through the reservation. Indicate whether your plant is located in (i.e., within the limits of) Indian Country and whether the water body into which your plant discharges flows through Indian Country after it receives your plant discharge. ADEQ does not have AZPDES jurisdiction in Indian Country. Depending on your responses, your application may need to be submitted to EPA.

A.7. Flow

- a. Provide your plant's current design flow rate. Treatment works with a design flow less than 5 mgd must provide the design influent flow rate to two decimal places. Treatment works that are greater than or equal to 5 mgd must report this to 1 decimal place. This is because fluctuations of 0.01mgd to 0.09 mgd in smaller treatment works represent a significant percentage of daily flow.
- b. Enter the annual average daily influent flow rate, in million gallons per day, that your plant actually treated this year and each of the past two years for days that your plant actually discharged. Each year's data must be based on a 12-month time period, with the 12th month of "this year" occurring no more than three months prior to this application submittal.
- c. Enter the maximum daily influent flow rate in million gallons per day, that your plant received this year and each of the past two years. Each year's data must be based on a 12-month time period, with the 12th month of "this year" occurring no more than three months prior to this application submittal.

A.8. Discharges and Other Disposal Methods

- a. Provide the number of treated effluent discharge points, untreated or partially treated effluent discharge points, combined sewer overflow points, constructed emergency overflows prior to the headworks and any other discharge points. Dischargers of effluent to waters of the U.S. with design flow rates greater than or equal to 0.1 mgd must also complete Part B (Additional Application Information) and, in some cases, Part D (Expanded Effluent Testing Data) and Part E (Toxicity Testing Data) of Form 2A. A treatment works that accepts process wastewater from a significant industrial user or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes) of Form 2A. A treatment works that has a combined sewer system (i.e., collects a mixture of both sanitary wastewater and storm

water runoff), must complete Part G (Combined Sewer Systems) of Form 2A. See the Application Overview on page 1 of Form 2A for more information.

- b. A surface impoundment with no point source discharge (to waters of the U.S.) is a holding pond or basin that is large enough to contain all wastewaters discharged into it. It has no places where water overflows from it. It is used for evaporation of water and very little water seeps into the ground. Your plant must report the location of each surface impoundment, the annual average volume discharged to each impoundment and whether the discharge into the surface impoundment is continuous, periodic or intermittent. A "periodic discharge" is one that happens regularly (for example, monthly or seasonally), but is not continuous all year. An "intermittent discharge" is one that happens sometimes, but not regularly. For periodic or intermittent discharges, give the number of times per year a discharge occurs into this impoundment. Also tell how long each discharge lasts and how much water is discharged in million gallons per day. List each month when discharge happens. If you do not have records of exact months in which such discharges occurred, provide an estimate based on the best available information. If your plant discharges to more than one surface impoundment, use an additional sheet (or sheets) to give this information for each impoundment. Attach the additional sheet(s) to the application form. The information on the location of the surface impoundment(s) may be referenced on the topographic map prepared under Item B.2, if applicable.
- c. Land application is the spraying or spreading of treated wastewater over an area of land. It does not, however, include the direct reuse of reclaimed water under a reuse permit issued by ADEQ. If your plant applies wastewater to land, you must list the site location, the size of the site (in acres), the annual average daily volume applied to the site and the frequency of the application. If your plant applies wastewater to more than one site, provide the information for each site on a separate sheet (or sheets). Attach the additional sheet(s) to your application form. The information on the location of the land application site may be referenced on the topographic map prepared under Item B.2, if applicable.
- d. If your plant discharges treated or untreated wastewater to another treatment works (including a municipal waste transport or collection system), provide the information required in Item A.8.d. If your plant sends wastewater to more than one treatment works, provide this information for each treatment works on an additional sheet (s) and attach to your application form. Describe how the wastewater is transported to the other treatment works. Also provide the name and mailing address of the company that transports your plant's wastewater to this treatment works as well as the name, title and phone number of the contact person at the transportation company. Also provide the name and mailing address of each treatment works that receives wastewater from your plant as well as the name, title and phone number of the contact person at the treatment works that receives your plant's wastewater and the NPDES/AZPDES permit number for the treatment works, if known. Indicate the average daily flow, in million gallons per day, that is sent from your plant to the other treatment works.
- e. If your plant disposes of its wastewater in some way that was not described by A.8.a through A.8.d above, briefly describe how your plant discharges or disposes of its wastewater. Also give the annual average daily volumes disposed of this way and the frequency of disposal. Other ways to dispose include underground recharge, direct reuse and well injection.

Complete Items A.9 through A.13 once for each outfall (including bypass points) through which your treatment works discharges effluent to surface waters of the United States. Do not include information about combined sewer overflow discharge points in this section. Surface waters of the United States include, ephemeral and dry washes, perennial and intermittent creeks, streams, rivers, lakes and estuaries. If your treatment works has more than one outfall, copy and complete Items A.9 through A.13 once for

each outfall.

A.9. Description of Outfall

- a-e. Give the outfall number and its location. For location, provide the city or town (if applicable), zip code, county, state and latitude and longitude to the nearest second. If this outfall is a subsurface discharge (e.g., into an estuary or lake), indicate how far the outfall is from shore and how far below the water's surface it is. Give these distances in feet. Also provide the average daily flow rate in million gallons per day.
- f. Mark whether the discharge from this outfall is continuous, periodic or intermittent. For periodic or intermittent discharges, give the number of times per year a discharge occurs from this outfall. Also tell how long each discharge lasts and how much water is discharged in million gallons per day. List each month when discharge happens. If you do not have records of exact months in which such discharges occurred, provide an estimate based on the best available information.
- g. Indicate whether the outfall is equipped with a diffuser.

A.10. Description of Receiving Waters

- a. Give the name of the surface water to which this outfall discharges and the waterbodies to which the discharge will ultimately flow. For example, "Control Ditch A, then into Stream B, then into River C and finally into River D in River Basin E."
- b. If known, provide the name of the watershed in which the receiving water (identified in Item A.10.a) is located. If known, also provide the 14-digit watershed code assigned to this watershed by the U.S. Natural Resources Conservation Service (NRCS).
- c. If known, provide the name of the River Basin into which this outfall discharges. If known, also provide the 8-digit hydrologic cataloging unit code assigned by the U.S. Geological Survey.
- d. If known and if the water body is a perennial or intermittent river or stream, provide the acute and chronic critical low flow in cubic feet per second (cfs). If you are unsure of these numbers, the U.S. Geological Survey may be able to give them to you or you may be able to get these numbers from prior studies.
- e. Give the total hardness of the receiving stream at critical low flow, in milligrams per liter of CaCO_3 , if applicable.

A.11. Description of Treatment

- a. Indicate the levels of treatment that your plant provides for the discharge from this outfall.
- b. Give the design removal rates, in percent, for biochemical oxygen demand (BOD_5) or carbonaceous biochemical oxygen demand (CBOD_5), suspended solids (SS), phosphorus (P), nitrogen (N) and any other parameter required by ADEQ.
- c. Describe the type of disinfection your plant uses (for example, chlorination, ozonation, ultraviolet, etc.) and any seasonal variation in disinfection technique that may occur. If your plant uses chlorination, indicate whether it also dechlorinates.
- d. Note whether the facility has post aeration.

- e. Provide a topographic map (or other map if a topographic map is not available) extending at least one mile beyond property boundaries of the treatment plant which shows the location of the treatment plant and the outfall(s).
- f. Provide a process flow diagram or schematic of the treatment plant. Include a brief narrative description of the diagram.

A.12. Effluent Testing Information

All applicants that discharge effluent to waters of the U.S., must provide effluent testing data for each outfall. Refer to the table on page 5 to determine which effluent testing information you must provide and to determine the minimum number of sampling events on which to base your data. See the Application Overview on page 1 of Form 2A for more information.

Complete Item A.12 *once for each outfall* through which effluent is discharged to waters of the United States. Indicate on each page the outfall number (as assigned in Item A.9) for which the data are provided. Do not include information about combined sewer overflow discharge points in Item A.12. For specific instructions on completing the pollutant tables in Item A.12, refer to Appendix A of these instructions.

Treatment works characteristics	Form 2A requirements	Minimum number of sampling events (see Appendix A)
Design flow rate less than 0.10 mgd <i>and</i> not required to have (or does not have) a pretreatment program	Item A.12	3
Design flow rate greater than or equal to 0.10 mgd but less than 1 mgd and not required to have (or does not have) a pretreatment program	Items A.12 and B.6	3
Design flow rate greater than or equal to 1 mgd <i>or</i> required to have (or has) a pretreatment program <i>or</i> otherwise required by ADEQ to provide the data	Items A.12, B.6, and Parts D and E of the Supplemental Application Information Packet	3

A.13. Border Area

Indicate whether the facility is located within 100 kilometers (62 miles) north of the Arizona -Sonora, Mexico border. If it is, then provide a description of the area into which the discharges from the facility may flow and a statement explaining whether the flow is expected to cross the border.

Part B. Additional Application Information for Applicants with a Design Flow Greater Than or Equal to 0.10 MGD

All applicants with a design flow rate greater than or equal to 0.1 mgd must complete Items B.1 through B.6.

B.1. Inflow and Infiltration

Estimate the average daily flow rate of inflow and infiltration in gallons per day and steps the facility is taking to minimize inflow and infiltration.

B.2. Detailed Topographic Map

Show the following on the topographic map (or other map) submitted pursuant to Item A.11.e above:

- a. Treatment plant unit processes;
- b. Major pipes or other structures through which wastewater enters the treatment plant and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable;
- c. Each well where wastewater from the treatment plant is injected underground, if applicable;
- d. Wells including drinking water wells, springs and other surface waterbodies listed in public records or otherwise known to the applicant within one-quarter mile of the treatment works' property boundary, if applicable;
- e. Sewage sludge management facilities (including on-site treatment storage and disposal sites); and
- f. Location at which waste classified as hazardous under Resource Conservation and Recovery Act (RCRA) enters the treatment works by truck, rail or dedicated pipe and where it is treated, stored and/or disposed of, if applicable.

B.3. Detailed Process Flow Diagram or Schematic

Show the following on the process flow diagram or schematic of the treatment plant submitted pursuant to Item A.11.f above. All bypass piping and all backup power sources or redundancy in the system. Include a water balance showing all treatment units, including disinfection and showing daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s)

If a contractor carries out any operational or maintenance aspects (other than those performed by the operator listed under Item A.2 above) associated with wastewater treatment or effluent quality at this facility, provide the name, mailing address and telephone number of each such contractor. Also provide a description of the responsibilities of the contractor. Attach additional pages if necessary.

B.5. Scheduled Improvements and Schedules of Implementation

Provide information on any improvements to your treatment works that you are currently planning. Include only those improvements that will affect the wastewater treatment, effluent quality or design capacity of your treatment works (such improvements may include regionalization of treatment works). Also list the schedule for when these improvements will be started and finished. If your treatment works has more than one improvement planned, use a separate sheet of paper to provide information for each one.

- a. List each outfall number that is covered by the implementation schedule. The outfall numbers you use must be the same as the ones provided under Item A.9.
- b. Indicate whether the planned improvements or implementation schedules are required by local, state or federal agencies.
- c. Provide a brief description of the improvements to be made for the outfalls listed in Item B.5.a,

including a new maximum daily inflow rate, if applicable.

- d. Provide the information required for each planned improvement. Supply dates imposed by any compliance schedule or planned independently of local, state or federal agencies and any actual completion dates for the implementation steps listed below, as applicable. If a step has already been finished, give the date when that step was completed.

- ! "Begin Construction" means the date you plan to start construction.
- ! "End Construction" means the date you expect to finish construction.
- ! "Begin Discharge" means the date you expect a discharge will start.
- ! "Attain Operational Level" means the date that you expect the effluent level will meet your plant's implementation schedule conditions.

- e. Note whether your treatment works has received appropriate permits or clearances that are required by other Federal or State requirements. If you have received such permits, describe them.

B.6. Effluent Testing Data

Provide effluent testing data for each outfall. Indicate on each page the outfall number (as assigned in Item A.9) for which the data is provided. Do not provide information about combined sewer overflow discharge points in Item B.6. For specific instructions on completing the pollutant tables in Item B.6, refer to Appendix A of these instructions.

Part C. Certification

Before completing the Certification statement, review the Application Overview section on the cover page of Form 2A to make sure you have completed all applicable sections of Form 2A, including any parts of the Supplemental Application Information packet.

All permit applications must be signed and certified. *The signature must be of a qualified person as indicated below and the application can not be signed by a consultant who prepares it.* Also indicate in the boxes provided which sections of Form 2A you are submitting with this application.

An application submitted by a *municipality, State, Federal or other public agency* **must be signed by either a principal executive officer or ranking elected official.** A principal executive officer of a Federal agency includes: (1) The chief executive officer of the agency or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

An application submitted by a corporation **must be signed by a responsible corporate officer.** A responsible corporate officer means:

1. A president, secretary, treasurer or vice president in charge of a principal business function or any other person who performs similar policy or decision making functions; or
2. The manager of manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25million (in second quarter 1980 dollars), if the authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

An application submitted by a partnership or sole proprietorship **must be signed by a general partner or the proprietor**, respectively.

Supplemental Application Information

As directed by the Application Overview section on page 1 of Form 2A, certain applicants will need to complete one or more parts of the Supplemental Application Information in addition to some or all of the Basic Application Information. Refer to the Application Overview section to determine which part(s) of Form 2A you must complete.

The Supplemental Application Information packet is divided into four (4) parts:

1. Part D Expanded Effluent Testing Data
2. Part E Toxicity Testing Data
3. Part F Industrial User Discharges and RCRA/CERCLA Wastes
4. Part G Combined Sewer Systems

Part D. Expanded Effluent Testing Data

A treatment works that discharges effluent to waters of the U.S. and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):

1. Has a design flow rate greater than or equal to one (1) mgd; or
2. Is required to have a pretreatment program under 40 CFR Part 403 incorporated by reference under A.A.C. R18-9-A905 (A)(7)(b) and R18-9-A906 (or has one in place); or
3. Is otherwise required by ADEQ to provide the information.

Complete Part D *once for each outfall* through which effluent is discharged to waters of the U.S. Indicate on each page the outfall number (as assigned in Item A.9 of the Basic Application Information packet) for which the data are provided. Using the blank rows provided on the form, submit any data the facility has for pollutants not specifically listed in Part D. Note that ADEQ may require additional testing on a case-by-case basis.

Part E. Toxicity Testing Data

A treatment works that discharges effluent to waters of the U.S. and meets one or more of the following criteria must complete Part E (Toxicity Testing Data):

1. Has a design flow rate greater than or equal to one (1) mgd; or
2. Is required to have a pretreatment program under 40 CFR Part 403 incorporated by reference under A.A.C. R18-9-A905 (A)(7)(b) and R18-9-A906 (or has one in place); or
3. Is otherwise required by ADEQ to submit the results from any whole effluent toxicity testing.

Applicants completing Part E must submit at a minimum, the results of four (4) quarterly tests conducted during a 12-month period within the past one (1) year or the results from four (4) whole effluent toxicity (WET) tests conducted at least annually prior to the application during the past four and one-half (4.5) years, provided the results show no appreciable toxicity. Do not include information on combined sewer overflows in this section. If the applicant conducted a WET test during the past four and one-half years that revealed toxicity, then provide any information available on the cause of the toxicity or any results of a

toxicity reduction evaluation, if one was conducted.

Test results provided in Part E must be based on multiple species being tested quarterly for a minimum of one year. For multiple species, ADEQ requires two species (vertebrates and invertebrates) for acute testing and three species (vertebrates, invertebrates, and plants) for chronic testing. Applicants must provide these tests for either acute or chronic toxicity depending on the range of the receiving water dilution. ADEQ recommends that applicants conduct acute or chronic toxicity testing based on the following dilutions:

1. Acute toxicity testing if the dilution of the effluent is greater than 1000:1 at the edge of the mixing zone.
2. Acute or chronic toxicity testing if the dilution of the effluent is between 100:1 and 1000:1 at the edge of the mixing zone. Acute toxicity testing may be more appropriate at the higher end of this range (1000:1) and chronic testing may be more appropriate at the lower end of this range (100:1).
3. Chronic testing if the effluent dilution is less than 100:1 at the edge of the mixing zone or if there is no mixing zone.

All data provided in Part E must be based on tests performed within four and one-half years prior to completing this application. For renewal applications, the tests must have been conducted since the last AZPDES (or NPDES) permit issuance or permit modification.

Additional copies of Part E may be used in submitting the required information. A permittee having no significant toxicity in the effluent over the past year and who has submitted all toxicity test results through the end of the calendar quarter preceding the time of permit application would need to supply no additional toxicity testing data as part of this application. Instead, the applicant shall complete Item E.4, which request a summary of bioassay test information already submitted (See below for more detailed instructions on completing Item E.4).

Where test data are required to be reported, the treatment works has the option of reporting the required data on Form 2A or on reports supplied by the laboratories conducting the testing, provided the data required are complete and presented in understandable form. ADEQ reserves the right to require that the data be reported on Form 2A.

E.1. Required Tests

Provide the total number of chronic and acute whole effluent toxicity tests conducted in the past four and one-half years. A "chronic" toxicity test continues for a relatively long period of time, often one-tenth the life span of the organism or more in which sub-lethal effects (reduced growth or reproduction) are usually measured in addition to lethality. An "acute" toxicity test is one in which the effect (usually the lethality) is observed in 96 hours or less.

E.2. Individual Test Data

Complete E.2 for each test conducted in the last four and one-half years for which data has not been submitted. Use the columns provided on the form for each test and specify the test number at the top of each column. Use additional copies of Item E.2 if more than four (4) tests are being reported. The parameters listed on the forms are based on EPA recommended test methods. Permittees may be required by ADEQ to submit additional test parameter data for the purposes of quality assurance.

If the treatment works is conducting WET testing and reporting its results in accordance with an AZPDES (or NPDES) permit requirement, then the treatment works may note the dates the test results were submitted and need not fill out the information required in Item E.2 for those tests (unless otherwise

required by ADEQ).

- a. Provide the information required on the form for each test reported. Under "Test species & test method number," provide the scientific name of the organism used in the test and the test method number. The "Outfall number" reported must correlate to the outfall numbers listed in question A.9 of the Basic Application Information packet.
- b. Provide the source of the toxicity test methods followed. In conducting the test, the treatment works must use methods approved in accordance with 9 A.A.C. 14, Article 6.
- c. Indicate whether 24-hour composite or grab samples were used for each test. For multiple grab samples, provide the number of grab samples used. Refer to Appendix A of the instructions for a definition of composite and grab samples.
- d. Indicate whether the sample was taken before or after disinfection and/or after dechlorination.
- e. Provide a description of the point in the treatment process at which the sample was collected.
- f. Indicate whether the test was intended to assess chronic or acute toxicity.
- g. Indicate which type of test was performed. A "static" test is a test performed with a single constant volume of water. In a "static-renewal" test, the volume of water is renewed at discrete intervals. In a "flow-through" test, the volume of water is renewed continuously.
- h. Indicate whether laboratory water or the receiving water of the tested outfall was used as the source of dilution water. If laboratory water was used, provide the type of water used.
- i. Indicate whether fresh or salt water was used as the dilution water. For salt water, specify whether the salt water was natural or artificial (specify the type of artificial salt water used).
- j. For each concentration in the test series, provide the percentage of effluent used.
- k. Provide the minimum and maximum parameters measured during the test for pH, salinity, temperature, ammonia and dissolved oxygen.
- l. Provide the results of each test performed. For an acute toxicity test, provide the percent survival of the test species in 100 percent effluent. Also provide the LC₅₀ (Lethal Concentration to 50 percent) of the test. "LC₅₀" is the effluent (or toxicant) concentration estimated to be lethal to 50 percent of the test organisms during a specific period. Provide the 95% confidence interval, control percent survival and any other test results required by ADEQ in the space provided. For chronic toxicity test, provide data at the most sensitive endpoint. While this is generally expressed as a "NOEC" (No Observed Effect Concentration), it may be expressed as an "Inhibition Concentration" (e.g., "IC₂₅" –Inhibition Concentration to 25 percent). The NOEC is the highest measured concentration of an effluent (or a toxicant) at which no significant adverse effects are observed on the test organisms at a specific time of observation. The IC₂₅ is the effluent (or toxicant) concentration estimated to cause a 25 percent reduction in reproduction, fecundity, growth or other non-quantal biological measurements. Provide the control percent survival. Indicate any other test results in the space provided.
- m. Note whether reference toxicant data is available and indicate whether the reference toxicant test was within acceptable bounds. Provide the date on which the reference effluent (or toxicant) test was run. Also, provide any other quality control/quality assurance information that may be required by ADEQ.

E.3. Toxicity Reduction Evaluation

A Toxicity Reduction Evaluation (TRE) is a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, evaluate the effectiveness of toxicity control options and then confirm the reduction in effluent toxicity. If the treatment works is conducting a TRE as part of an AZPDES (or NPDES) permit requirement or enforcement order, then you only need to provide the date of the last progress report concerning the TRE in the area reserved for details of the TRE.

E.4. Summary of Submitted Biomonitoring Test Information

As stated above, applicants that have already submitted the results of biomonitoring test information over the past four and one-half years do not need to resubmit this data with Form 2A. Instead, indicate in Item E.4 the date you submitted each report and provide a summary of the test results for each report. Include in this summary the following information: the outfall number and collection dates of the samples tested, dates of testing, toxicity testing method(s) used and a summary of the results from the test (e.g., 100% survival in 40% effluent).

Part F. Industrial User Discharges and RCRA/CERCLA Wastes

All treatment works receiving discharges from significant industrial users (SIUs) or facilities that receive RCRA, CERCLA or other remedial wastes must complete Part F.

A **categorical industrial user** is an industrial user that is subject to Categorical Pretreatment Standards under 40 CFR 403.6 as incorporated by reference under A.A.C. R18-9-A905(A)(7)(b) and 40 CFR Chapter I, Subchapter N, which are technology based standards developed by EPA setting industry-specific effluent limits. (A list of Industrial Categories subject to Categorical Pretreatment Standards is included in Appendix B).

A **significant industrial user** is defined in 40 CFR 403.3(t) and incorporated by reference under A.A.C. R18-9-A905(A)(7)(b) as an industrial user that:

1. Is subject to Categorical Pretreatment Standards under 40 CFR 403.6 as incorporated by reference under A.A.C. R18-9-A905(A)(7)(b) and 40 CFR Chapter I, Subchapter N; and
2. Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (excluding sanitary, non-contact cooling and boiler blowdown wastewater); contributes a process wastestream that makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the treatment works; or is designated as such by the Control Authority as defined in 40 CFR 403.12(a) and incorporated by reference under A.A.C. R18-9-A905(A)(7)(b) on the basis that the industrial user has a reasonable potential for adversely affecting the treatment works operation or for violating any pretreatment standard or requirement in accordance with 40 CFR 403.8(f)(6) as incorporated by reference under A.A.C. R18-9-A905(A)(7)(b).

An **industrial user** means any industrial or commercial entity that discharges wastewater that is not domestic wastewater. Domestic wastewater includes wastewater from connections to houses, hotels, non-industrial office buildings, institutions or sanitary waste from industrial facilities. The number of "industrial users" is the total number of industrial and commercial users that discharge to the treatment works. Provide information on non-categorical SIUs and categorical SIUs separately.

F.1. Pretreatment Program

Indicate whether the treatment works has an approved pretreatment program. An **approved pretreatment program** is a program administered by a treatment works that meets the criteria established in 40 CFR

403.8 and 403.9 as incorporated by reference under A.A.C. R18-9-A905(A)(7)(b) and that has been approved by EPA or ADEQ.

Note that if this treatment works has or is required to have a pretreatment program, you must also complete Parts D and E of the Supplemental Application Information packet.

F.2. Number of Categorical and Non-categorical SIUs

Provide the number of categorical and non-categorical SIUs that discharge to the treatment works.

Significant Industrial User (SIU) Information. All treatment works that receive discharges from SIUs must complete questions F.3 through F.8. If your treatment works receives wastewater from more than one SIU, complete questions F.3 through F.8 *once for each SIU*.

F.3. Significant Industrial User Information

Provide the name and mailing address of each SIU. Submit additional pages as necessary.

F.4. Industrial Process

Describe the actual process(es) (rather than simply listing them) at the SIU that affect or contribute to the SIU's discharge. For example, in describing a metal finishing operation, include such information as how the product is cleaned prior to finishing, what type of plating baths are in operation (e.g., nickel, chromium), how paint is applied and how the product is polished. Attach additional sheets if necessary.

F.5. Principal Product(s) and Raw Material(s)

List principal products that the SIU generates and the raw materials used to manufacture the products.

F.6. Flow Rate

"Process wastewater" means any water that, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct or waste product. Indicate the average daily volume, in gallons per day, of process wastewater and non-process wastewater that the SIU discharges into the collection system. Specify whether the discharges are continuous or intermittent.

F.7. Pretreatment Standards

Indicate whether the SIU is subject to local limits and categorical pretreatment standards. "Local limits" are enforceable local requirements developed by treatment works to address Federal standards as well as state and local regulations. "Categorical pretreatment standards" are national technology-based standards developed by EPA, setting industry-specific effluent limits. These standards are implemented by 40 CFR 403.6 as incorporated by reference under A.A.C. R18-9-A905(A)(7)(b). If the SIU is subject to categorical pretreatment standards, indicate the category and subcategory.

F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU

Provide information concerning any problems the treatment works has experienced that are attributable to discharges from the SIUs. Problems may include upsets or interference at the plant, corrosion in the collection system or other similar events in the past three years.

RCRA Hazardous Waste Received by Truck, Rail or Dedicated Pipeline

As defined in Section 1004(5) of the Resource Conservation and Recovery Act (RCRA), "hazardous waste" means "a solid waste or combination of solid wastes, which because of its quantity, concentration, physical, chemical or infectious characteristics may:

1. Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible, illness; or
2. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed."

Those solid wastes that are considered hazardous are listed under 40 CFR Part 261. Treatment works that accept hazardous wastes by truck, rail or dedicated pipeline (a pipeline that is used to carry hazardous waste directly to a treatment works without prior mixing with domestic sewage) within the property boundary of the treatment works are considered to be hazardous waste treatment, storage and disposal facilities (TSDFs) and, as such, are subject to regulations under RCRA. Under RCRA, mixtures of domestic sewage and other wastes that commingle in the treatment works collections system prior to reaching the property boundary, including those wastes that otherwise would be considered hazardous, are excluded from RCRA regulation under the domestic sewage exclusion. Hazardous wastes that are delivered directly to the treatment works by truck, rail or dedicated pipeline do not fall within the exclusion. Hazardous wastes received by these routes may only be accepted by treatment works if the treatment works complies with applicable RCRA requirements for TSDFs.

Applicants completing Items F.9 through F.11 must indicate all points at which RCRA hazardous waste enters the treatment works by truck, rail or dedicated pipe in the map provided in Item B.2 of the Basic Application Information packet, if applicable.

F.9. RCRA Waste

Indicate whether the treatment works currently receives or has received RCRA waste by truck, rail or dedicated pipe in the past three years.

F.10. Waste Transport

Indicate the method by which RCRA waste is received at the treatment works.

F.11. Waste Description

Provide the EPA hazardous waste numbers, which are located in 40 CFR Part 261, Subparts C & D and the amount (in volume or mass) received.

CERCLA (Superfund) Wastewater and RCRA Remediation/Corrective Action Wastewater

Substances that are regulated under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) are described and listed in 40 CFR Part 302. Items F.12 through F.15 apply to the type, origin and treatment of CERCLA wastes currently (or expected to be) discharged to the treatment works.

F.12. CERCLA Waste

Indicate whether this treatment works currently receives waste from a CERCLA (Superfund) site or plans to accept waste from a CERCLA site in the next five (5) years. If it does, provide the information required in F.13 - F.15 *once for each site*.

F.13. Waste Origin

Provide information about the CERCLA site that is discharging or is expected to discharge in the next five (5) years waste to the treatment works. Information must include a description of the type of facility and an EPA identification number if one exists.

F.14. Pollutants

Provide a list, volume and concentration of the pollutants that are or will be discharged by the CERCLA site.

F.15. Waste Treatment

Provide information concerning the treatment used (if any) by the CERCLA site to treat the waste prior to discharging it to the treatment works. The information should include a description of the treatment technology, information on the frequency of the discharge (continuous or intermittent) and any data concerning removal efficiency.

Part G. Combined Sewer Systems

A combined sewer system collects a mixture of both sanitary wastewater and storm water runoff.

G.1. System Map

Indicate on a system map all CSO discharge points. For each such point, indicate any sensitive use areas and any waters supporting threatened or endangered species that are potentially affected by CSOs. Sensitive use areas include beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems and outstanding natural resource waters. Applicants may provide the information required in Item G.1 on the map submitted in response to question B.2 in the Basic Application Information packet, if applicable.

All maps should be either on paper or other materials appropriate for reproduction. If possible, all sheets should be approximately letter size with margins suitable for filing and binding. As few sheets should be used as necessary to show clearly what is involved. All discharge points should be identified by outfall number. Each sheet should be labeled with the applicant's name, AZPDES (or NPDES) permit number, location (city, county or town), date of drawing and designation of the number of sheets of each diagram as "page ___ of ___."

G.2. System Diagram

Diagram the location of combined and separate sanitary major sewer trunk lines and indicate any connections where separate sanitary sewers feed into the combined sewer system. Clearly indicate the location of all in-line and off-line storage structures, flow regulation devices and pump stations.

The drawing should be either on paper or other material appropriate for reproduction. If possible, all sheets should be approximately letter size with margins suitable for filing and binding. As few sheets should be used as necessary to show clearly what is involved. All discharge points should be identified by outfall number. Each sheet should be labeled with the applicant's name, NPDES permit number, location (city, county or town), date of drawing and designation of the number of sheets of each diagram as "page ___ of ___."

CSO Outfalls. Complete Items G.3 through G.6 *once for each CSO discharge point*. Attach additional pages as necessary.

G.3. Description of Outfall

- a-f. Provide the outfall number and location (including city or town if applicable, state, county and latitude and longitude to the nearest second). For subsurface discharges (e.g., discharges to lakes, estuaries and oceans), provide the distance (in feet) of the discharge point from the shore and the depth (in feet) of the discharge point below the surface of the discharge point. Provide these distances at the lowest point of low tide. Indicate whether rainfall, CSO flow volume, CSO pollutant concentrations, receiving water quality or CSO frequency were monitored during the past 12 months. In addition, provide the number of storm events monitored during the past 12 months.

G.4. CSO Events

- a. Provide the number of CSO events that have occurred in the past 12 months. Indicate whether this is an actual or approximate number.
- b. Provide the average duration (in hours) per CSO event. Indicate whether this is an actual or approximate value.
- c. Provide the average volume (in million gallons) of discharge per CSO incidents over the past 12 months. Indicate whether this is an actual or approximate number.
- d. Provide the minimum amount of rainfall that caused the CSO incident in the past 12 months.

G.5. Description of Receiving Waters

- a. List the name(s) of the immediate receiving waters starting at the CSO discharge point and moving downstream. For example, "Control Ditch A, thence to Stream B, thence to River C and thence to River D in the River Basin E."
- b. Provide the name of the watershed/river/stream system in which the receiving water (identified in Item A10.a) is located. If known, also provide the 14-digit watershed code assigned to this watershed by the U.S. NRCS.
- c. Provide the name of the River Basin into which this outfall discharges. If known, also provide the 8-digit hydrologic cataloging unit code assigned by the U.S. Geological Survey.

G.6. CSO Operations

Provide a description of any known water quality impacts on the receiving water caused by CSOs from this discharge point. Water quality impacts include, but are not limited to, permanent or intermittent beach closings, permanent or intermittent shell fish bed closing, fish kills, fish advisories, other recreational loss or violation of any applicable State water quality standard.

Appendix A. Guidance for Completing the Effluent Testing Information; All Treatment Works

All applicants must provide data for each of the pollutants in Item A.12 of the Basic Application Information packet. Some applicants must also provide data for the pollutants in Item B.6 of the Basic Application Information packet and Parts D and E of the Supplemental Application Information packet. All applicants submitting effluent testing data must base this data on **a minimum of three sampling events**. All samples analyzed must be representative of the discharge from the sampled outfall.

If you have existing data on more than three sampling events and they are representative of the discharged wastestream, you must include them in the data you report. In addition, provide in the blank pollutant table attached to Form 2A (page 24) any existing sampling data that your facility may have for pollutants not listed in the appropriate sections. For example, if your facility has a design flow less than 0.10 mgd and you have representative sampling data on any parameter or pollutant that is not listed under Item A.12, you must report that data. Or, if your facility has a design flow equal to or greater than 0.10 mgd and you have representative sampling data on any parameter or pollutant that is not listed under Item B.6, you must report that data. Finally, if your facility has a design flow equal to or greater than 1.0 mgd or has or is required to have an approved pretreatment program and you have representative sampling data on any pollutant that is not listed under Part D, you must report that data. All data provided in the application must be based on samples taken **within four and one-half (4.5) years prior to the time of this permit application**.

Sampling data must take into consideration seasonal variations. The collection of samples for the reported analyses should be supervised by a person experienced in performing wastewater sampling. Specific requirements contained in the applicable analytical methods are to be followed for sample containers, sample preservation, holding times and collection of duplicate samples. Samples should be taken at a time representative of normal operation. To the extent feasible, all processes that contribute to wastewater should be in operation and the treatment system should be operating properly with no system upsets. Samples should be collected from the center of the flow channel (where turbulence is at a maximum), at a location specified in the current AZPDES (or NPDES) permit or at any location adequate for the collection of a representative sample. *Samples are to be analyzed by a laboratory certified for the methods by the Arizona Department of Health Services.*

A minimum of four (4) grab samples must be collected for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, E. coli and enterococci (applicants need only provide data on *either* fecal coliform or E. coli and enterococci). NOTE: For volatile organic compounds, four (4) sealed grab samples must be taken and composited per approved methods by the laboratory doing the analysis. For all other pollutants, 24-hour composite samples must be collected. However, a minimum of one grab sample, instead of a 24-hour composite, may be taken for effluent from holding ponds or other impoundments that have a retention period greater than 24 hours.

Definitions and other requirements

Average daily discharge - Is determined by calculating the arithmetic mean daily pollutant concentration and the arithmetic mean daily pollutant total mass of all sample events within the four and one-half (4.5) years prior to this permit application. Report the concentration, mass and the units used under the Average Daily Discharge column, along with the number of samples on which the average is based. Use the unit abbreviations shown above in "Maximum Daily Discharge."

If data required in Form 2A have been reported on the treatment works' Discharge Monitoring Reports (DMRs), compile such data and report it under the Maximum Daily Discharge and the Average Daily Discharge columns of the form.

Composite sample - A sample derived from two (2) or more discrete samples collected at equal time intervals and preferably proportional to the flow rate over a 24-hour compositing period (e.g., a 24-hour composite sample may be taken as three samples each collected eight hours apart, four discrete samples each collected six hours apart or eight discrete samples each collected three hours apart). The composite collection method may vary depending on pollutant characteristics or discharge flow characteristics.

Concentration - The amount of pollutant that is present in a sample with respect to the size of the sample. The daily discharge concentration is the average concentration of the pollutant throughout the 24-hour period.

Daily discharge - For composite samples, the daily discharge is the pollutant concentration and total mass found in a composite sample taken over a 24-hour period. For grab samples, the daily discharge is the average pollutant concentration and total mass found in a series of at least four (4) grab samples taken during the operating hours of the treatment works during a 24-hour period.

Grab sample - An individual sample of at least 100 milliliters collected randomly for a period not exceeding 15 minutes.

ADEQ may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which sampling takes place, the duration between sampling events and protocols for collecting samples under 9 A.A.C. 14, Article 6. Contact ADEQ for detailed guidance on sampling techniques and for answers to specific questions. The following instructions explain how to complete each of the columns in the pollutant tables in the effluent testing information sections of Form 2A.

Mass - Is calculated as the total mass of the pollutant discharged over the 24-hour period.

All data must be reported as both concentration and mass (where appropriate). Use the following abbreviations in the columns headed "Units."

g—grams	ppm—parts per million
gpd—gallons per day	ppb—parts per billion
kg—kilograms	su—standard units
lbs—pounds	ton—tons (English tons)
mg—milligrams	T—tonnes (metric tons)
mgd—million gallons per day	ug/l—micrograms per liter
mg/l—milligrams per liter	

Maximum daily discharge. To determine the maximum daily discharge values, compare the daily discharge values from each of the sample events. Report the highest total mass and highest concentration level from these samples under the Maximum Daily Discharge column.

Analytical Method. All information reported must be based on data collected through analyses conducted using 9 A.A.C. 14, Article 6 methods for wastewater samples. Applicants should use methods that enable pollutants to be detected at levels adequate to meet water quality-based standards. Where no approved method can detect a pollutant at the water quality-based standards level, the most sensitive approved method should be used. If the applicant believes that an alternative method should be used (e.g., due to matrix interference), the applicant shall obtain prior approval from ADEQ. If an alternative method is specified in the existing permit, the applicant should use that method unless otherwise directed by ADEQ. Where no approved analytical method exist, an applicant may use a suitable method but must provide a description of the method. For the purposes of the application, "suitable method" means a method that is sufficiently sensitive to measure as close to the water quality-based standard as possible.

Indicate the method used for each pollutant in the "Analytical Method" column of the pollutant tables. If a method has not been approved for a pollutant for which you are providing data, you may use a suitable method to measure the concentration of the pollutant in the discharge and provide a detailed description of the method used or a reference to the published method. The description must include the sample holding time, preservation techniques and the quality control measures used. In such cases, indicate the method used and attach to the application a description of the method used.

Reporting levels. The applicant shall provide the method detection limit (MDL), minimum level (ML) or other designated method endpoint reflecting the precision of the analytical method used.

All analytical results must be reported using the actual numeric values determined by the analysis. In other words, even where analytical results are below the detection or quantitation level of the method used, the actual data shall be reported, rather than reporting "non-detect" ("ND") or "zero" ("0"). Because the endpoint of the method has also been reported along with the test results, ADEQ will be able to determine if the data are in the "non-detect" or "below quantitation" range.

For any dilutions made and any problems encountered in the analysis, the applicant shall attach an explanation and any data qualifiers and supporting documentation with the application. For GC/MS, report all results found to be present by spectral confirmation (i.e., quantitation limits or detection limits should not be used as a reporting threshold for GC/MS).

Total Recoverable Metals. Total recoverable metals are measured from unfiltered samples using EPA methods specified in 9 A.A.C. 14, Article 6. A digestion procedure is used to solubilize suspended materials and destroy possible organic metal complexes. The method measures dissolved metals and metals recovered from suspended particles by the method digestion.

Appendix B. Industrial Categories Subject to National Categorical Pretreatment Standards

Industrial Categories with Pretreatment Standards in Effect

Aluminum Forming	Asbestos Manufacturing
Battery Manufacturing	Builder's Paper and Board Mills
Carbon Black Manufacturing	Centralized Waste Treatment
Coil Coating	Commercial Hazardous Waste Combustors
Copper Forming	Electrical and Electronic Components
Electroplating	Feedlots
Ferroalloy Manufacturing	Fertilizer Manufacturing
Glass Manufacturing	Grain Mills Manufacturing
Ink Formulating	Inorganic Chemicals
Iron and Steel Manufacturing	Leather Tanning and Finishing
Metal Finishing	Metal Molding and Casting
Nonferrous Metals Forming and Metal Powders	Nonferrous Metals Manufacturing
Organic Chemicals, Plastics and Synthetic Fibers	Paint Formulating
Paving and Roofing	Pesticide Formulating, Packaging and Repackaging
Pesticides Manufacturing	Petroleum Refining
Pharmaceutical Manufacturing	Porcelain Enameling
Pulp, Paper and Paperboard	Rubber Manufacturing
Soap and Detergents Manufacturing	Steam Electric Power Generating
Sugar Processing	Timber Products Manufacturing
Transportation Equipment Cleaning	

Industrial Categories with Pretreatment Standards Currently Under Development

Industrial Laundries
Iron and Steel Manufacturing
Landfills and Incinerators
Metal Products and Machinery, Phase I
Metal Products and Machinery, Phase II